

IN THE CLAIMS:

1. (Currently Amended) A method for handling substantially rod-shaped objects, particularly poles of articles individually stacked in one another during a loading process, the method comprising:

providing objects in a first geometrical arrangement via a manufacturing or processing machine, said first geometrical arrangement having a first packaging density;

gripping a portion of each object with a gripping device such that the objects are positioned in said first geometrical arrangement;

modifying said first geometrical arrangement after gripping the objects via moving the objects with said gripping device such that the objects form a modified geometrical arrangement having a modified packaging density, said modified packaging density being greater than said first packaging density, said modified geometrical arrangement being different from said first geometrical arrangement;

providing a loading aid for receiving the objects;

depositing the objects in said modified geometrical arrangement in said loading aid with said gripping device such that each object is in a vertical position within said loading aid.

2 - 4. (Canceled)

5. (Currently Amended) Method according to claim 1, wherein said gripping device has gripping elements, one gripping element being movable relative to another gripping element

such that said gripping elements modify a lateral spacing defined by one object and another object, whereby wherein said gripping elements modify said first geometrical arrangement to form said modified geometrical arrangement, said gripping elements being arranged in a first geometrical gripping arrangement when the objects are in said first geometrical arrangement, said gripping elements being arranged in a second geometrical gripping arrangement when the objects are in said modified geometrical arrangement, said first geometrical gripping arrangement being different from said second geometrical gripping arrangement, said lateral spacing between objects in said modified geometrical arrangement being less than said lateral spacing between objects in said first geometrical arrangement.

6. (Canceled)

7. (Previously Presented) Method according to claim 1, further comprising a magazine means for receiving the objects in said first geometrical arrangement and modifying an arrangement of said objects.

8. (Currently Amended) Method according to claim 5, wherein said gripping device modifies the objects from said first geometrical arrangement to said modified geometrical arrangement with said gripping elements within said loading aid based on a predetermined packing density, said predetermined packing density corresponding to said second geometrical gripping arrangement, said predetermined packing density not being equal to said first

packaging density.

9 - 10. (Canceled)

11. (Previously Presented) Method according to claim 1, wherein the objects are removed row by row or blockwise.

12. (Previously Presented) Method according to claim 7, wherein the objects are arranged in rows in said magazine means, each row having a length corresponding to a dimension of the loading aid.

13 - 14. (Canceled)

15. (Previously Presented) Method according to claim 1, wherein said loading is stored or conveyed for a further processing of the objects after depositing the objects in said loading aid, said objects being decorated or filled during said further processing of the objects, wherein the objects are removed rowwise from the loading aid before the objects are further processed.

16. (Previously Presented) Method according to claim 15, wherein the objects for further processing are removed from said loading aid via a further gripping device, said further gripping device being a removal device.

17 - 18. (Canceled)

19. (Previously Presented) Method according to claim 16, wherein the objects are removed from said loading aid and redeposited therein by a handling device.

20. (Canceled)

21. (Previously Presented) Method according to claim 1, wherein said loading aid is inclined relative to vertical during deposition and/or removal of the objects.

22. (Previously Presented) Method according to claim 21, further comprising a spreading station for inclining said loading aid and for spreading out/application of a lining.

23. (Currently Amended) A device for handling substantially rod-shaped objects, particularly poles of articles which can be individually stacked in one another such as plastic cups, the device comprising:

a manufacturing or processing machine providing objects in a first geometrical arrangement, one object and another object defining a lateral spacing;

a loading aid;

a first gripping device gripping at least a portion of each of the objects in said first geometrical arrangement located at said manufacturing or processing machine, said gripping

device moving the objects in said first geometrical arrangement after gripping the objects such  
10 that the objects form a modified geometrical arrangement, said modified geometrical  
arrangement being different from said first geometrical arrangement, wherein said lateral  
spacing between objects in said modified geometrical arrangement is less than said lateral  
spacing between objects in said first geometrical arrangement, said first gripping device  
transferring the objects from said manufacturing or processing machine to said loading aid, said  
15 first gripping device depositing the objects in said modified geometrical arrangement in said  
loading aid such that the objects are in an upright position in said loading aid.

24. (Canceled)

25. (Previously Presented) Device according to claim 23, further comprising a  
magazine means for receiving the objects contained in the first gripping device prior to  
deposition in the loading aid.

26. (Previously Presented) Device according to claim 25, wherein said magazine means  
includes parallel rod axes in an arrangement of rows.

27. (Previously Presented) Device according to claim 25, wherein said magazine means  
modify a geometrical arrangement of the objects.

28. (Previously Presented) Device according to claim 23, wherein said first gripping device has a plurality of gripping elements, each gripping element gripping a portion of one of the objects.

29. (Previously Presented) Device according to claim 25, wherein said magazine means includes a plurality of storage elements, each storage element receiving one of the objects.

30. (Previously Presented) Device according to claim 28, wherein said gripping elements and/or storage elements have a lateral guidance means for guiding the object into said gripping elements and/or storage elements.

31. (Previously Presented) Device according to claim 30, wherein said guidance means of said gripping elements is integrally connected with a closure means for retaining the objects.

32. (Previously Presented) Device according to claim 30, wherein said guidance means guides the objects such that one rod axis of one object is oriented parallel to another rod axis of another object, whereby the objects are positioned in a parallel orientation.

33. (Previously Presented) Device according to claim 28, wherein one gripping element is located adjacent another gripping element to form a row of gripping elements.

34. (Previously Presented) Device according to 29, wherein one storage element is located adjacent another storage element to form a row of storage elements.

35. (Previously Presented) Device according to claim 33, wherein said gripping elements and/or the storage elements are mounted for movement.

36. (Previously Presented) Device according to claim 35, wherein said gripping elements and/or storage elements are movable in a direction perpendicular the objects being held.

37. (Previously Presented) Device according to claim 33, wherein said gripping elements and/or storage elements are slidably arranged on a rail element extending in the direction of the row.

38. (Previously Presented) Device according to claim 33, wherein a lateral spacing of gripping elements and/or storage elements is variable within the row.

39. (Previously Presented) Device according to claim 38, wherein said gripping elements and/or storage elements are movable from a first position to a second position based on a predetermined packing density in the loading aid, said first position defining a first lateral spacing of said gripping elements and/or storage elements.

40. (Previously Presented) Device according to claim 33, wherein said one of said gripping elements and/or storage elements is connected to another adjacent gripping element and/or storage element by connecting means to define two relative positions with two different pairwise lateral spacings of said gripping elements/storage elements.

41. (Previously Presented) Device according to claim 40, further comprising an individual power source for moving the gripping elements/storage elements for each group of gripping elements/storage elements.

42. (Previously Presented) Device according to claim 25, further comprising a second gripping device for removing a second geometrical arrangement of objects from said magazine means.

43. (Canceled)

44. (Previously Presented) Device according to claim 23, wherein a positioning insert is located in said loading aid.

45. (Previously Presented) Device according to claim 44, wherein said positioning insert has a reception means for receiving one of the objects, whereby said reception means



receives one rod end of one of the objects.

46. (Previously Presented) Device according to claim 23, further comprising a further gripping device for removing each of the objects from said loading aid, wherein said further gripping device is a removal device.

47. (Canceled)

48. (Previously Presented) Device according to claim 46, wherein said removal device has a shell arrangement formed from at least two half-shells rotatable relative to one another about a common axis for receiving one of the objects to be removed, wherein one of the objects is received in a space defined by said shell arrangement and held therein by retaining means provided at one end of said shell arrangement.

49. (Canceled)

50. (Previously Presented) Device according to claim 46, wherein said removal device has a clamping device formed from underengaging means for underengaging one of the objects and a hold-down means for clamping one of the objects between said underengaging means and said hold-down means.

51 - 52. (Canceled)

53. (Previously Presented) Device according to claim 23, further comprising a spreading station for spreading out and simultaneously applying a lining in the loading aid against a wall of the loading aid during deposition of the objects.

54. (Previously Presented) Device according to claim 53, wherein said spreading station inclines said loading aid relative to vertical during deposition of the objects.

55. (Previously Presented) Device according to claim 23, wherein said first gripping device is operable by a handling device.

56 - 58. (Canceled)

59. (Currently Amended) Device for handling substantially rod-shaped objects, particularly poles of articles which can be individually stacked in one another such as plastic cups, the device comprising:

a manufacturing or processing machine providing objects in a first geometrical arrangement, said first geometrical arrangement having a first packaging density;

a loading aid element;

a magazine means for receiving the objects in said first geometrical arrangement and for

modifying the objects from said first geometrical arrangement to a second geometrical arrangement after receiving the objects in said first geometrical arrangement, said second geometrical arrangement being different from said first geometrical arrangement, said second geometrical arrangement having a second packaging density, said second packaging density being greater than said first packaging density, wherein the objects are positioned in said magazine means in an upright position;

a transfer means for transferring the objects in said second geometrical arrangement to said loading aid element such that the objects in said second geometrical arrangement are positioned in said loading aid in said upright position.

60. (Currently Amended) Method according to claim 19, wherein ~~said handling device is a multiaxial industrial robot~~ each object and another object define a first lateral spacing in said first geometrical arrangement, each object another object defining a second lateral spacing in said second geometrical arrangement, said second lateral spacing being of a dimension that is less than said first lateral spacing.